ORWG Meeting: Discussion and Paper Completion

Thursday 23 June 2011 @ 12:00 EDT

Synopsis:

- Summary of discussions at the 2011 NCRI-NCI Joint Meeting (Standards and Vocabularies)
- Review of updated recommendations
- Paper refinement and completion as well as publication methods
- Project closure

2011 NCRI-NCI Joint Meeting
Standards & Vocabularies Theme

Diverse representation

- HL7 v2 & v3
- Significant traditional biomedical vocabularies (LOINC)
- Emerging methods, especially for Life Sciences
- Semantic Web (e.g. W3C HCLS)

Presentations (semi-formal, ad-hoc)

- Survey Instruments using LOINC (and semantic profiles): Clem McDonald
- Ontology Evaluation Methods: Joanne Luciano
- BRIDG: Charlie Mead
- LS-DAM: Bob Freimuth
- HL7 Clinical Genomics: Amnon Shabo
- VIVO Project: Mike Conlin
- Imaging (radiology and pathology) integration use cases using SemWeb methods: Scott Marshall
- OBO Foundry: Alan Ruttenberg
- ORWG Project: Stuart

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Standards & Vocabularies Theme

Outcomes

- Meeting summary - *draft in development*
- Concise outcome/recommendations for continued work - *pending*
- White paper (including alignment with other themes) - *pending*
- Related stand-alone paper or integrated discussion on “complexity” - *pending*
- Peer-review journal (e.g. Nature) - *tentative*

All shared on Google Docs within a folder/dossier @ http://goo.gl/Cj64w

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Standards & Vocabularies Theme

BioSharing

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VIVO

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Standards & Vocabularies Theme

BioSiteMaps | Biomedical Resource Ontology

BIO SITEMAPS

Home

Biositemaps

Breaking News: The Resource Discovery System now includes biositemap resources from all registered resource programs!

The Biositemaps Working Group of the NIH Roadmap National Centers of Biomedical Computing (NCBC) (**www.ncbcs.org**) has developed technologies to address (**i**) locating, (**ii**) querying, (**iii**) composing or combining, and (**iv**) mining biomedical resources. Each site which intends to contribute to the inventory instantiates a file on its Internet site "**biositemap.rdf**" which conforms to a defined RDF schema and uses concepts from the Biomedical Resource Ontology to describe the resources.

What is a Biositemap? Biositemaps represent a mechanism for computational biologists and bio-informaticians to openly broadcast and retrieve meta-data about biomedical resources. All institutions with an interest in biomedical research can publish a biositemap.rdf file on their Internet site. Each biositemap.rdf file is simply a list of controlled metadata about resources (data, software, tools, material, and services) that your organization uses or believes are important to biomedical research. The key enabling technologies are the Information Model (IM) which is the list of metadata fields about each resource (resource_name, description, contact_person, resource_type,...) and the Biomedical Resource Ontology (BRO) which is a controlled terminology for the 'resource_type', 'area of research', and 'activity' and which are used to improve the sensitivity and specificity of web searches. [more...]

What is the Biomedical Resource Ontology (BRO)? A key enabling technology for Biositemaps is the Biomedical Resource Ontology (BRO) which is a controlled terminology for the 'resource_type', 'area of research', and 'activity' and which are used to improve the sensitivity and specificity of web searches. This is under development by a number of NIH-funded researchers who have a combined interest in classification of biomedical resources. The publication site for BRO is the BioPortal.

QuickStart for Biositemaps

1. Use the Biositemaps Editor to fill in the information about the resources on your site and generate a biositemap.rdf file. There are also customized editors for CTSA and NCBC. Important: **Internet Explorer** users must first configure their browser. [help...]
2. Your biositemap.rdf file will need to be **deployed** to your local web server prior to being published [help...]
3. Use the Biositemap Registration to publish your biositemap after it has been deployed [help...]
   Biositemaps need only be published once, and may be freely updated after their initial publication.
4. You can query information about resources that you or others have published using the biositemaps search tool.

How can researchers author and consume Biositemaps and the BRO?

- The Biositemaps Editor provides an authoring web interface to fill in the information about the resources on your site and generate a biositemap.rdf file. There are also customized editors for CTSA and NCBC. Important: **Internet Explorer** users must first configure their browser.
- The Biositemap Search provides a web interface for simple or complex queries against all resources defined in all published biositemaps across the internet.

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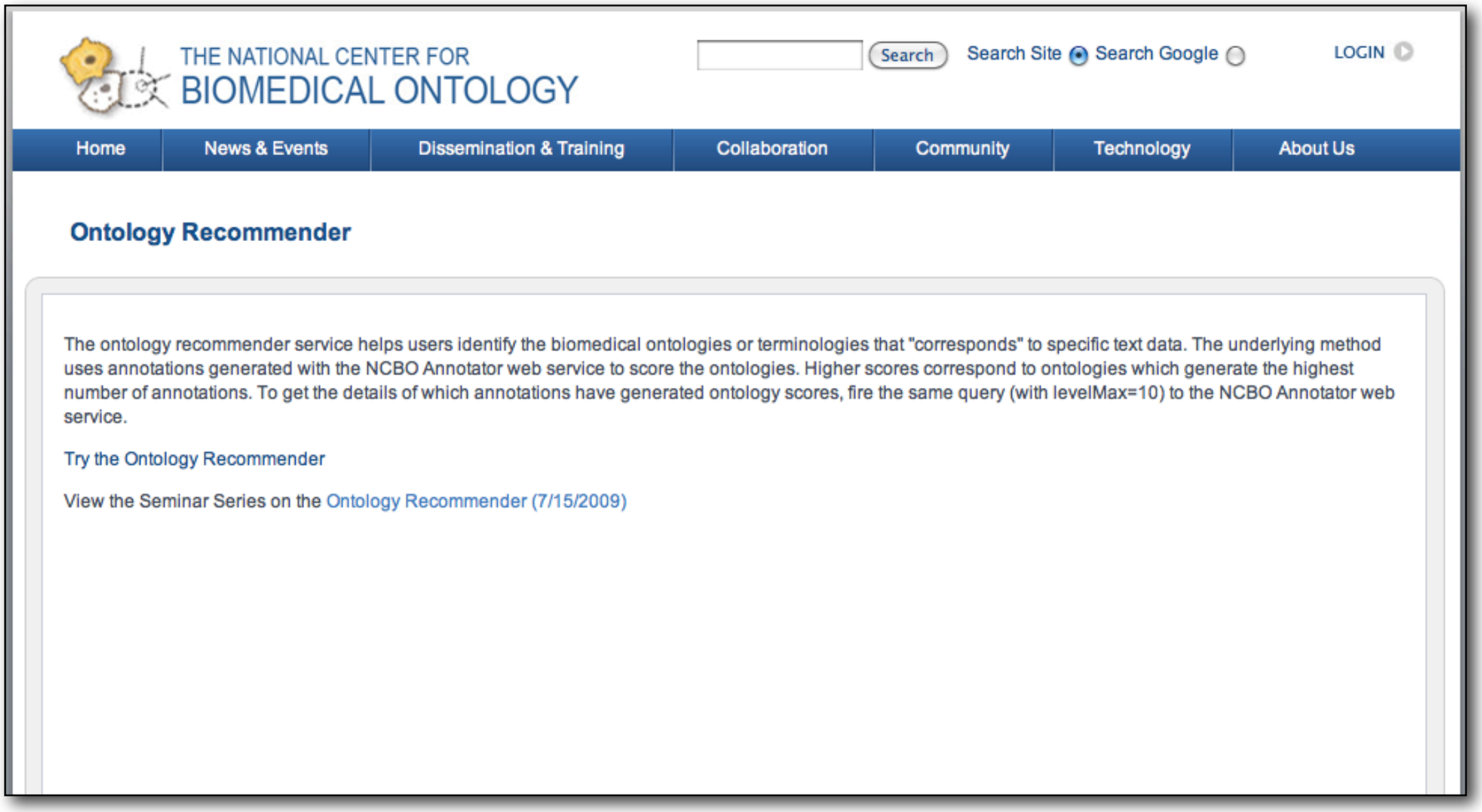
Ontology Recommender



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Cross Community Pollination

- Language (e.g. “metadata”)
- Intellectual Property Issues
- Use Cases require (may) different solutions: patient care vs. life science research

Profiling

- Language (e.g. “metadata”)
- Intellectual Property Issues
- Use Cases require (may) different solutions: patient care vs. life science research
- User centered design (UCD)
- Problems: incentives, metrics, specific ontology community size, absolute community size, web-of-trust, community fragmentation
- Ontology best practices and quality control: Unit testing, reasoners, education and training

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Standards & Vocabularies Theme

Framework - Methods and Metrics

- Evaluation metrics (Joanne Luciano - see SlideShare presentation)
- Search behavior - disparities (browse for whole ontologies task or domain, browse terms in multiple ontologies
- Reconciling universal objectives for metrics (text mining vs. reasoning)
- Critique of utility of existing metadata available in repositories (e.g. BioPortal)
- Potential for automatic evaluation. Approach similar to rigors of software development (e.g. unit testing
- High priority metrics: Domain or usage or other coverage, use of axioms to determine how to use a specific term, classification methods
- Incentives to crowd source reviews: People require recognition and ability to author their own review. Presence and reputation is under-appreciated

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Connecting different models or moving between different formalizations

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Scenarios

Adoption, traditional and novel use of “ontologies” may be helped by better publishing or sharing highly relevant integration/interoperability scenarios. This is expected to improve collaboration between those who need help with interesting solutions to novel problems (e.g. researchers and the semantic web community)

Possible exemplars:

•UK Database of Uncertanties About the Effects of Treatments (DUET)
“A resource to make uncertainties explicit and to help prioritise new research”

•KickStarter (funding platform for creative projects)

ORWG Paper: Updates (some)

Regarding explicit ratings, NCBO is likely the best single location to serve as a repository of ratings and rankings by the community. However, as discussed earlier, it is recommended that some changes to the NCBO site be made to create more of a community neighborhood gathering place, and summary of terminology ratings, linking to the actual ratings on each terminology. To create an initial critical mass, NCBO should consider inviting a major user of each ontology to create an initial rating entry. Also, they might consider adding the “Did you find this useful” feature so prevalent on other ratings sites

Related to 2 above, we recommend bringing all terminology metadata content to the surface, (example Ohloh.net, Sourceforge, Amazon are good examples). BioPortals community features have been buried too deeply, but interim changes in the Bioportal user interface in May 2011 release have been made to help bring this information closer to the surface

Description of rights in the current models are fairly general \-\- for instance Dublin Core uses "accessRights" and OMV uses "license model". Additional information about (or link to) attribution, reuse and distribution should be included by submitters, as this is needed by users. Although this is not in the current core model recommendation, guidance should be provided to contributors to provide this information in a note.

ORWG Paper Completion

- End of June
- Relatively major reworking (condensation) with references to notes and focus on recommendations.
- Publication formats
- Update meeting with NCRI (Stuart Bell and Sherri de Coronado) week of 13 June 2011